

strain essentially new and produced spontaneously by nature through crossing, bud variation, or otherwise, synonymous with the older term 'sport'"; "Zygote, that portion of the gamete which determines a unit character." It seems unfortunate that a book otherwise so admirable should propagate such definitions as these. However, the defect in regard to Mendelian heredity is mainly a "sin of omission," and the prepared teacher can easily fill in the vacancy, especially with the aid of PUNNETT'S *Mendelism*. DAVENPORT'S book can not fail to interest, instruct, and inspire, and is deserving of a wide distribution.—GEO. H. SHULL.

Popular manuals

The scientific men and women of England have always been interested in interpreting the result of science to the intelligent public not trained in science. Even their scientific papers are apt to be more popular in form than are those prepared in the United States. We cannot but feel that science in America has suffered very much from lack of proper interpretation. Those who are willing to write on scientific subjects for popular reading are usually unfit for the task; and those who are fit, are unwilling. The projected *Cambridge Manuals of Science and Literature* furnish a notable illustration of the continuous effort in England to interest the public in scientific matters. They are not intended primarily "for school use or for young beginners," but also for educated readers who want brief and simple, and at the same time authoritative statements of recent discoveries. The five volumes now issued, dealing with science, will indicate the subjects treated and the kind of authors preparing them.

The coming of evolution, the story of a great revolution in science, by JOHN W. JUDD (171 pp.); *Heredity*, in the light of recent research, by L. DONCASTER (140 pp.); *Plant-animals*, a study in symbiosis, by FREDERICK KEEBLE (163 pp.); *The natural history of coal*, by E. A. NEWELL ARBER (163 pp.); *Plant life on land*, considered in some of its biological aspects, by F. C. BOWER (172 pp.).

To issue such a series, at one shilling a volume, is to place this material in the hands of a very wide range of readers, and must react favorably upon the general interest in science.

Another series, having the same purpose, is called *Home University Library*, ten volumes of which have now appeared. It is an English series (Williams and Norgate), as one might expect, published in this country by Henry Holt and Company. The books are larger than the Cambridge Manuals (uniformly 256 pp.), selling for 75 cents, and are more pretentious in contents, suited doubtless to a somewhat better trained group of readers. Four of the volumes are of interest to botanists, as follows: *Modern geography*, by MARION I. NEWBIGIN; *Polar exploration*, by W. S. BRUCE; *The evolution of plants*, by D. H. SCOTT; *Evolution*, by PATRICK GEDDES and J. ARTHUR THOMSON.

A third series is the *Appleton's Scientific Primers*, edited by J. REYNOLDS GREEN, an English botanist. Three of this series have appeared, the third by the editor and entitled *Botany*. It is written from the English point of view, which lays much stress on details and terminology, but is effective in presenting the plant as a living organism, for the author is a physiologist. A great deal of material is packed in the 128 pages, and it would be interesting to know the impression such material makes upon those without laboratory experience.—J. M. C.

Mendelism

PUNNETT'S little book² on Mendelism, which was one of the first attempts at a simple popular presentation of its subject, has been completely rewritten and enlarged for its third edition. It is in fact a new book, written however from the same point of view and for the same circle of readers. The author limits himself to the presentation of illustrative examples, with no attempt at exhaustiveness in any phase of the subject, referring readers to BATESON'S book on *Mendel's principles of heredity* for more detailed information and for references to the literature. The material used to illustrate the various principles is well chosen, and is mostly derived, as might be expected, from the work of the Cambridge group of geneticists, of which the author is one. This results in a decided advantage, since the author's familiarity with his material favors clarity and vividness of presentation. The slight sense of provincialism given by this method is in this way more than compensated for.

While the treatment is in the main admirable, several unfortunate errors have crept in. It is stated (p. 2) that "among animals the female contributes the ovum and the male the spermatozoon; among plants the corresponding cells are the ovules and pollen grains." Several other zoological writers on genetic subjects have obviously made the same mistake. The animal ovum (after maturation) and spermatozoon are homologous cells, but ovules and pollen grains are not single cells, and not even homologous structures, the ovule consisting mostly of maternal somatic tissue, and the pollen grain being a much reduced gametophyte. The embryo sac within the ovule, and the sperm nuclei in the pollen tube, approximately correspond to the ovum and spermatozoa. On page 51, line 16, *c* should be *C*, and in fig. 8 on the following page the three squares which are black should be albino, and the three marked "albino," but containing *C*, should be black. The author assumes that dominance of a character always indicates that such character is due to something added to the recessive form, thus ignoring the possibility pointed out several years ago by the reviewer³ that the positive character may be reces-

² PUNNETT, R. C., *Mendelism*. Third edition, entirely rewritten and much enlarged. pp. xiv+192. pls. 6 and frontispiece. figs. 32. New York: The Macmillan Co. 1911.

³ The "presence and absence" hypothesis. *Amer. Nat.* 43:410-419. 1909.